# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/002,998 | 11/01/2001 | Ana Belen Benitez-Jimenez | YOR920000785 | 3328 |

| 48813 | 7590 | 08/15/2005 |
|---|---|---|

LAW OFFICE OF IDO TUCHMAN (YOR)
69-60  108 STREET
SUITE 503
FOREST HILLS, NY  11375

| EXAMINER |
|---|
| BELL, MELTIN |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2129 | |

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/002,998 | BENITEZ-JIMENEZ ET AL. |
| | Examiner | Art Unit | |
| | Meltin Bell | 2121 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _23 May 2005 and 23 March 2005_.

2a)☐ This action is **FINAL**.      2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-27_ is/are pending in the application.

    4a) Of the above claim(s) _27_ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-26_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _13 August 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _3/23/05_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

# DETAILED ACTION

This non-final action is responsive to application **10/002,998** filed 11/01/2001 as

well as the Appeal Brief filed 5/23/05 and Information Disclosure Statement (IDS) filed

3/23/05. Claims 1-26 filed by the applicant have been entered and examined. Claim 27

is canceled. An action on the merits of claims 1-26 appears below. Prosecution on the

merits is reopened.

## *Priority*

Applicant's claim for domestic priority against application number 60/246,052

filed **11/06/2000** under 35 U.S.C. 119(e) is acknowledged.

## *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9, 12-16 and 24-26 stand rejected under 35 U.S.C. 101 because the

claimed invention is directed to non-statutory subject matter. The language of the

claims (e.g. "knowledge", "network", "nodes", "concepts", "words", "content",

"relationships") raise a question as to whether the claims are directed merely to an

abstract idea that is not tied to a technological art, environment or machine which would

result in a practical application producing a concrete, useful, and tangible result to form

the basis of statutory subject matter under 35 U.S.C. 101. For example, if claim 1

required performance of a result outside of a computer, such as by displaying results on

a monitor, it will be statutory in most cases since the use of technology permits the

function of the descriptive material to be realized.

## *Claim Rejections - 35 USC § 103*

Applicant's arguments have been fully considered, but are moot in view of new

grounds of rejection. The following is a quotation of 35 U.S.C. 103(a) which forms the

basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the Office presumes that the subject matter of the

various claims was commonly owned at the time any inventions covered therein were

made absent any evidence to the contrary. Applicant is advised of the obligation under

37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

commonly owned at the time a later invention was made in order for the Office to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1, 3-12 and 14-26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over *Morgenstern* United States Patent Number (USPN) 5,802,508

"Reasoning with rules in a multiple inheritance semantic network with exceptions" (Sep.

1, 1998) in view of *Bergman et al* USPN 6,564,263 "Multimedia content description

framework" (Filed Dec. 3, 1999) and in further view of *Megalou et al* "Semantic

Abstractions in the Multimedia Domain" (Sep. 6, 1999).

**Regarding claim 1:**

*Morgenstern* teaches a method (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") implemented by at least one computer (Fig. 4 ; column 12, lines 55-

67, "Referring again to ... 416. The RAM"; column 13, lines 1-16, "414 provides

temporary ... devices not shown") for encoding knowledge (column 1, lines 13-21, "A

semantic network ... effects, and prices"), comprising the steps of: forming a network

having nodes (column 24, lines 37-46, "FIG. 26 shows how ... different link

preferences") that represent semantic concepts (column 1, lines 22-32, "The basic

building ... properties, as attributes"); and associating (column 24, lines 47-53, "FIGS.

27a and 27b ... the other hand") one or more words with one or more of the nodes

(column 1, lines 55-67, "The isa and ... not allow multiple"; column 2, lines 1-3,

"superclasses; however, this ... allow multiple superclasses"); associating with one or

more of the nodes (column 19, lines 51-57, "As in FIG. 17a ... associated challenged

paths 1755"); and representing relationships between the nodes (column 1, lines 33-40,

"A link relates ... fever, pain, swelling").

However, *Morgenstern* doesn't explicitly teach associating multimedia content with one

or more of the nodes; and representing relationships between the nodes as arcs

between associated words and arcs between associated multimedia content while

*Bergman et al* teaches forming a network having nodes (column 10, lines 11-29,

"Preferably, each connection ... the multimedia content") that represent semantic

concepts (Figs. 8-9; column 20, lines 57-65, "the multimedia content ... and semantic

concepts"); associating one or more words with one or more of the nodes (column 22,

lines 40-67, "The video component ... for the story"); associating multimedia content

with one or more of the nodes (Figs. 11-15; column 11, lines 1-11, "FIG. 12 illustrates

an example ... fidelities may exist"); and representing relationships between the nodes

as arcs between associated words and arcs between associated multimedia content

(Figs. 5-6, 15; column 3, lines 17-51, "It is a further ... merging of objects, etc."; column

4, lines 20-27, "FIG. 5 is a logical ... the present invention"; column 17, lines 49-59,

"FIG. 5 shows that object ... ends after object D". The examiner notes the arcs are

represented by the arrows and lines between the objects in *Bergman et al* Figs. 5-6 and

15 and as links in earlier cited *Morgenstern* column 1, lines 33-40.) and *Megalou et al*

teaches representing relationships between the nodes as arcs (page 8, paragraph 2,

"For the representation ... the initial graph") between associated words and arcs

between associated multimedia content.

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects") and searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to modify *Morgenstern* as taught by *Bergman et al* and *Megalou et*

*al* for the purpose of describing multimedia content and searching by exactly matching

content.

**Regarding claim 3:**

The rejection of claim 3 is similar to that for claim 1 as recited above since the stated

limitations of the claim are set forth in the references. Claim 3's limitation difference is

taught in *Bergman et al:* relationships (column 3, lines 46-51, "Non-terminal objects may

... merging of objects, etc."; column 9, lines 55-65, "One of the ... the description

scheme"; column 17, lines 30-40, "the spatial relationships ... InfoPyramid or objects")

between semantic concepts (column 20, lines 57-65, "the multimedia content ... and

semantic concepts") and between associated content (column 5, lines 65-67, "a

multimedia content ... digital form in"; column 6, lines 1-20, "terms of either ... and non-

terminal objects"; column 11, lines 30-59, "a modality association .. must be selected")

are based (column 19, lines 15-24, "Based on the ... with different platforms") at least in

part on audio and/or visual (column 2, lines 31-37, "as user's expectation ... time and

space") feature descriptor (column 8, lines 42-54, "Feature Descriptors: These ... or the

like") values (column 13, lines 18-24, "The content description ... source multimedia

content").

**Regarding claim 4**:

The rejection of claim 4 is similar to that for claim 3 as recited above since the stated

limitations of the claim are set forth in the references. Claim 4's limitation difference is

taught in *Bergman et al*: extracting feature descriptors from multimedia content (column

8, lines 45-46, "Note that features ... the transformed data"; column 9, lines 26-54, "the

spatial or temporal ... to only metadata."); and computing similarity measures between

descriptor values (column 13, lines 25-39, "The fundamental description ... for

computing distances").

**Regarding claim 5**

The rejection of claim 5 is similar to that for claim 1 as recited above since the stated

limitations of the claim are set forth in the references. Claim 5's limitation difference is

taught in *Bergman et al*: the media network knowledge is represented using the ISO

MPEG-7 Description Definition Language (column 14, lines 45-67, "The multimedia

content ... for a particular"; column 15, lines 1-3, "community say Satellite ... set of

DTDs"; column 21, lines 65-67, "In one application ... to client device"; column 22, lines

1-24, "characteristics and user ... representation for MPEG-7").

**Regarding claim 6**:

*Morgenstern* teaches a method (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") implemented by at least one computer (Fig. 4 ; column 12, lines 55-

67, "Referring again to ... 416. The RAM"; column 13, lines 1-16, "414 provides

temporary ... devices not shown") for an encoded (column 1, lines 13-21, "A semantic

network ... effects, and prices") network (column 24, lines 37-46, "FIG. 26 shows how

... different link preferences".) knowledge representation that comprises a network

having nodes that represent semantic concepts (column 1, lines 22-32, "The basic

building ... properties, as attributes"), one or more words associated (column 24, lines

47-53, "FIGS. 27a and 27b ... the other hand") with the one or more nodes (column 1,

lines 55-67, "The isa and ... not allow multiple"; column 2, lines 1-3, "superclasses;

however, this ... allow multiple superclasses"), and wherein relationships between the

nodes are represented (column 1, lines 33-40, "A link relates ... fever, pain, swelling").


However, *Morgenstern* <u>doesn't explicitly teach</u> a method implemented by at least one

computer for <u>searching</u> an encoded <u>media</u> network knowledge representation that

comprises a network having nodes that represent semantic concepts, one or more

words and <u>multimedia</u> associated with the one or more nodes, and wherein

relationships between the nodes are represented as <u>arcs</u> between associated words

and arcs between associated multimedia content while *Bergman et al* teaches

<u>searching</u> (Abstract, "A framework is ... aggregated multimedia objects") an encoded

<u>media</u> (column 6, lines 57-67, "Preferably, the multimedia ... with reference to FIGS. 3

and 4") network knowledge representation that comprises a network having nodes that

represent semantic concepts, one or more words and <u>multimedia</u> associated with the

one or more nodes, and wherein relationships between the nodes are represented as

<u>arcs</u> (Figs. 5-6, 15; column 3, lines 17-51, "It is a further ... merging of objects, etc.";

column 4, lines 20-27, "FIG. 5 is a logical ... the present invention"; column 17, lines 49-

59, "FIG. 5 shows that object ... ends after object D". The examiner notes the arcs are

represented by the arrows and lines between the objects in Figs. 5-6 and 15 and as

links in earlier cited *Morgenstern* column 1, lines 33-40.) between associated words and

arcs between associated multimedia content, the method comprising the steps of:

accepting (column 16, lines 35-44, "Such spring-like objects ... or peripherals speed,

etc.") a query (column 22, lines 5-9, "While content negotiation ... another for retrieval");

matching the query to the words and multimedia content related to the concepts

encoded (column 2, lines 34-37, "The emerging requirement ... time and space") in the

media (column 7, lines 17-25, "the highest resolution/fidelity ... class of devices")

network knowledge representation (column 22, lines 9-16, "the content negotiation ... of

network/computational resources"); navigating the relationship arcs of the concepts

associated with matching words and multimedia content (column 23, lines 22-53, "As

we have seen ... limited display capabilities"); and retrieving related concepts, words,

and multimedia content from the matched nodes (column 10, lines 11-29, "Preferably,

each connection ... the multimedia content") or related nodes (Figs. 9, 11-14, 17-19;

column 22, lines 26-39, "This application automatically ... the full details") and *Megalou*

*et al* teaches relationships between the nodes are represented as <u>arcs</u> (page 8,

paragraph 2, "For the representation ... the initial graph") and navigating (page 17,

section 3.1, "Organized units of ... a multimedia repository") the relationship arcs of the

concepts associated with matching words and multimedia content.

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects") and searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to modify *Morgenstern* as taught by *Bergman et al* and *Megalou et*

*al* for the purpose of describing multimedia content and searching by exactly matching

content.

**Regarding claim 7:**

The rejection of claim 7 is the same as that for claim 6 as recited above since the stated

limitations of the claim are set forth in the references.

**Regarding claim 8:**

The rejection of claim 8 is the same as that for claim 6 as recited above since the stated

limitations of the claim are set forth in the references.

**Regarding claim 9:**

The rejection of claim 9 is similar to that for claim 6 as recited above since the stated

limitations of the claim are set forth in the references.  Claim 9's limitations difference is

taught in *Bergman et al*: forming a query (Fig. 19; column 5, lines 6-10, "FIG. 19 is a

flow ... the present invention") comprised of audio and/or visual (column 2, lines 31-37,

"as user's expectation ... time and space") feature (column 5, lines 21-43, "In the

content ... space and semantics") descriptor (column 8, lines 42-54, "Feature

Descriptors: These ... or the like") values (column 13, lines 18-24, "The content

description ... source multimedia content"), wherein the feature descriptor values

denote proximity (column 1, lines 56-61, "Retrieve locations of ... and temporal

proximity") to the semantic concepts (column 20, lines 57-65, "the multimedia content ...

and semantics concepts") of the nodes (column 10, lines 11-29, "Preferably, each

connection ... the multimedia content"); and matching the query (column 22, lines 37-

38, "the system presents a summary of the news stories matching the query") descriptor

(column 8, lines 42-54, "Feature Descriptors: These ... or the like") values (column 13,

lines 18-24, "The content description ... source multimedia content") to the descriptor

values of the content encoded (column 2, lines 34-37, "The emerging requirement ...

time and space") in the media network knowledge representation (column 7, lines 17-

25, "the highest resolution/fidelity ... class of devices").

**Regarding claim 10**:

*Morgenstern* teaches a method (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") for an encoded (column 1, lines 13-21, "A semantic network ...

effects, and prices") network knowledge representation that comprises a network having

nodes (column 24, lines 37-46, "FIG. 26 shows how ... different link preferences") that

represent semantic concepts (column 1, lines 22-32, "The basic building ... properties,

as attributes"), one or more words (column 1, lines 55-67, "The isa and ... not allow

multiple"; column 2, lines 1-3, "superclasses; however, this ... allow multiple

superclasses") associated with the one or more nodes (column 19, lines 51-57, "As in

FIG. 17a ... associated challenged paths 1755"), and wherein relationships between the

nodes are represented (column 1, lines 33-40, "A link relates ... fever, pain, swelling").

However, *Morgenstern* doesn't explicitly teach a method for browsing an encoded

media network knowledge representation that comprises a network having nodes that

represent semantic concepts, one or more words and multimedia associated with the

one or more nodes, and wherein relationships between the nodes are represented as

arcs between associated words and arcs between associated multimedia content while

*Bergman et al* teaches a method for browsing (column 9, lines 11-24, "It should be ...

and other modalities") an encoded media (column 6, lines 57-67, "Preferably, the

multimedia ... reference to FIGS. 3 and 4") network knowledge representation that

comprises a network having nodes (column 10, lines 11-29, "Preferably, each

connection ... the multimedia content") that represent semantic concepts (Figs. 8-9;

column 20, lines 57-65, "the multimedia content ... and semantic concepts"), one or

more words and multimedia associated with the one or more nodes (column 22, lines

40-67, "The video component ... for the story"), and wherein relationships between the

nodes are represented as arcs between associated words and arcs between associated

multimedia content (Figs. 5-6, 15; column 3, lines 17-51, "It is a further ... merging of

objects, etc."; column 4, lines 20-27, "FIG. 5 is a logical ... the present invention";

column 17, lines 49-59, "FIG. 5 shows that object ... ends after object D". The examiner

notes the arcs are represented by the arrows and lines between the objects in *Bergman*

*et al* Figs. 5-6 and 15 and as links in earlier cited *Morgenstern* column 1, lines 33-40.),

the method comprising the steps of: displaying one or more concept nodes and

associated words and/or multimedia content (column 5, lines 44-62, "FIG. 2 depicts

another ... proper client device"; column 7, lines 44-62, "Preferably, each device ...

suitable point therebetween"); and providing means for allowing a user (column 20, lines 57-65, "the multimedia content ... and semantics concepts") to select related concepts for viewing (Figs. 1-2; column 19, lines 26-49, "a method is ... and connection bandwidth") and *Megalou et al* teaches relationships between the nodes are represented as arcs (page 8, paragraph 2, "For the representation ... the initial graph") between associated words and arcs between associated multimedia content.

Motivation - The portions of the claimed method would have been a highly desirable feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A framework is ... aggregated multimedia objects") and searching by exactly matching content (*Megalou et al*, Abstract, "Information searching by ... and database research"). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Morgenstern* as taught by *Bergman et al* and *Megalou et al* for the purpose of describing multimedia content and searching by exactly matching content.

**Regarding claim 11:**

The rejection of claim 11 is similar to that for claim 10 as recited above since the stated limitations of the claim are set forth in the references. Claim 11's limitations difference is taught in *Bergman et al*: providing means for allowing the user to select concept nodes and associated words and/or multimedia content for display on the basis of specific types (column 19, lines 64-67, "7. Generate annotations 1707 ... original multimedia content") or values (column 13, lines 18-24, "The content description ...

source multimedia content") of relations to a particular concept node or associated word

or multimedia content (column 10, lines 1-44, "With reference to ... scene transition

diagram").

**Regarding claim 12:**

*Morgenstern* teaches a method (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") implemented by at least one computer (Fig. 4 ; column 12, lines 55-

67, "Referring again to ... 416. The RAM"; column 13, lines 1-16, "414 provides

temporary ... devices not shown") for an encoded network knowledge (column 1, lines

13-21, "A semantic network ... effects, and prices") representation that comprises a

network having nodes (column 24, lines 37-46, "FIG. 26 shows how ... different link

preferences") that represent semantic concepts (column 1, lines 22-32, "The basic

building ... properties, as attributes"), one or more words associated (column 24, lines

47-53, "FIGS. 27a and 27b ... the other hand") with the one or more nodes (column 1,

lines 55-67, "The isa and ... not allow multiple"; column 2, lines 1-3, "superclasses;

however, this ... allow multiple superclasses"), and wherein relationships between the

nodes are represented (column 1, lines 33-40, "A link relates ... fever, pain, swelling").


However, *Morgenstern* doesn't explicitly teach a method implemented by at least one

computer for summarizing an encoded media network knowledge representation that

comprises a network having nodes that represent semantic concepts, one or more

words and multimedia associated with the one or more nodes, and wherein

relationships between the nodes are represented as arcs between associated words

and arcs between associated multimedia content while *Bergman et al* teaches a method

implemented by at least one computer for summarizing (column 5, lines 21-43, "In the

content ... space and semantics") an encoded media (column 6, lines 57-67,

"Preferably, the multimedia ... reference to FIGS. 3 and 4") network knowledge

representation that comprises a network having nodes that represent semantic

concepts, one or more words and multimedia associated with the one or more nodes,

and wherein relationships between the nodes are represented as arcs between

associated words and arcs between associated multimedia content (Figs. 5-6, 15;

column 3, lines 17-51, "It is a further ... merging of objects, etc."; column 4, lines 20-27,

"FIG. 5 is a logical ... the present invention"; column 17, lines 49-59, "FIG. 5 shows that

object ... ends after object D". The examiner notes the arcs are represented by the

arrows and lines between the objects in *Bergman et al* Figs. 5-6 and 15 and as links in

earlier cited *Morgenstern* column 1, lines 33-40.), the method comprising the steps of:

extracting a subset of nodes, relations, and words and/or multimedia content from an

encoded media network knowledge representation (column 9, lines 39-54, "In one

multimedia ... to only metadata") and *Megalou et al* teaches relationships between the

nodes are represented as arcs (page 8, paragraph 2, "For the representation ... the

initial graph") between associated words and arcs between associated multimedia

content.


Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects") and searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to modify *Morgenstern* as taught by *Bergman et al* and *Megalou et*

*al* for the purpose of describing multimedia content and searching by exactly matching

content.

**Regarding claim 14**:

*Morgenstern* teaches a method (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") implemented by at least one computer (Fig. 4 ; column 12, lines 55-

67, "Referring again to ... 416. The RAM"; column 13, lines 1-16, "414 provides

temporary ... devices not shown") for updating (column 15, lines 5-23, "the network is ...

to be consistent") an encoded network knowledge (column 1, lines 13-21, "A semantic

network ... effects, and prices") representation that comprises a network having nodes

(column 24, lines 37-46, "FIG. 26 shows how ... different link preferences") that

represent semantic concepts (column 1, lines 22-32, "The basic building ... properties,

as attributes"), one or more words (column 1, lines 55-67, "The isa and ... not allow

multiple"; column 2, lines 1-3, "superclasses; however, this ... allow multiple

superclasses") associated (column 24, lines 47-53, "FIGS. 27a and 27b ... the other

hand") with the one or more nodes, and wherein relationships between the nodes are

represented (column 1, lines 33-40, "A link relates ... fever, pain, swelling").

However, *Morgenstern* <u>doesn't explicitly teach</u> a method implemented by at least one

computer for updating an encoded <u>media</u> network knowledge representation that

comprises a network having nodes that represent semantic concepts, one or more

words and <u>multimedia</u> associated with the one or more nodes, and wherein

relationships between the nodes are represented as <u>arcs</u> between associated words

and arcs between associated multimedia content while *Bergman et al* teaches a method

implemented by at least one computer for updating an encoded <u>media</u> (column 6, lines

57-67, "Preferably, the multimedia ... reference to FIGS. 3 and 4") network knowledge

representation that comprises a network having nodes that represent semantic

concepts, one or more words and <u>multimedia</u> associated with the one or more nodes,

and wherein relationships between the nodes are represented as <u>arcs</u> (Figs. 5-6, 15;

column 3, lines 17-51, "It is a further ... merging of objects, etc."; column 4, lines 20-27,

"FIG. 5 is a logical ... the present invention"; column 17, lines 49-59, "FIG. 5 shows that

object ... ends after object D". The examiner notes the arcs are represented by the

arrows and lines between the objects in *Bergman et al* Figs. 5-6 and 15 and as links in

earlier cited *Morgenstern* column 1, lines 33-40.) between associated words and arcs

between associated multimedia content, the method comprising the steps of: adding

(column 9, lines 11-24, "It should be ... and other modalities"), deleting (column 12,

lines 48-50, "Each description data ... that data type") or modifying (column 5, lines 44-

62, "FIG. 2 depicts another conventional ... the proper client device") concepts,

relations, or associated words, multimedia content, or descriptors in the encoded media

network knowledge representation and *Megalou et al* teaches relationships between the

nodes are represented as <u>arcs</u> (page 8, paragraph 2, "For the representation ... the

initial graph") between associated words and arcs between associated multimedia

content.


<u>Motivation</u> - The portions of the claimed method would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects") and searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to modify *Morgenstern* as taught by *Bergman et al* and *Megalou et*

*al* for the purpose of describing multimedia content and searching by exactly matching

content.

**Regarding claim 15:**

*Morgenstern* teaches a method (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") implemented by at least one computer (Fig. 4 ; column 12, lines 55-

67, "Referring again to ... 416. The RAM"; column 13, lines 1-16, "414 provides

temporary ... devices not shown") for querying (column 2, lines 39-54, "The question of

... an inheritance network") information associated with an encoded network knowledge

(column 1, lines 13-21, "A semantic network ... effects, and prices") representation that

comprises an encoded network having nodes (column 24, lines 37-46, "FIG. 26 shows

how ... different link preferences") that represent semantic concepts (column 1, lines

22-32, "The basic building ... properties, as attributes"), one or more words associated

(column 24, lines 47-53, "FIGS. 27a and 27b ... the other hand") with the one or more

nodes (column 1, lines 55-67, "The isa and ... not allow multiple"; column 2, lines 1-3,

"superclasses; however, this ... allow multiple superclasses"), and wherein relationships

between the nodes are represented (column 1, lines 33-40, "A link relates ... fever,

pain, swelling").


However, *Morgenstern* doesn't explicitly teach a method implemented by at least one

computer for querying a multimedia information repository associated with an encoded

media network knowledge representation that comprises an encoded network having

nodes that represent semantic concepts, one or more words and multimedia associated

with the one or more nodes, and wherein relationships between the nodes are

represented as arcs between associated words and arcs between associated

multimedia content while *Bergman et al* teaches a method implemented by at least one

computer for querying multimedia (column 6, lines 57-67, "Preferably, the multimedia ...

reference to FIGS. 3 and 4") information associated with an encoded media network

knowledge representation that comprises an encoded network having nodes that

represent semantic concepts, one or more words and multimedia associated with the

one or more nodes, and wherein relationships between the nodes are represented as

arcs between associated words and arcs between associated multimedia content (Figs.

5-6, 15; column 3, lines 17-51, "It is a further ... merging of objects, etc."; column 4,

lines 20-27, "FIG. 5 is a logical ... the present invention"; column 17, lines 49-59, "FIG. 5

shows that object ... ends after object D". The examiner notes the arcs are represented

by the arrows and lines between the objects in *Bergman et al* Figs. 5-6 and 15 and as

links in earlier cited *Morgenstern* column 1, lines 33-40.), the method comprising the

steps of: searching the encoded media network knowledge representation (column 23,

lines 22-34, "As we have seen ... to support search"); retrieving words, content, and/or

descriptors from the media network knowledge representation (column 23, lines 34-36,

"they also will ... search and retrieval"); and searching the information using the

retrieved words, content, and/or descriptors (column 23, lines 37-53, "Just as in ...

limited display capabilities") and *Megalou et al* teaches relationships between the nodes

are represented as <u>arcs</u> (page 8, paragraph 2, "For the representation ... the initial

graph") between associated words and arcs between associated multimedia content

and a method implemented by at least one computer for querying a multimedia

information <u>repository</u> (page 17, section 3.1, "Organized units of ... a multimedia

repository") associated with an encoded media network knowledge representation that

comprises an encoded network having nodes that represent semantic concepts, one or

more words and multimedia associated with the one or more nodes, and wherein

relationships between the nodes are represented as arcs between associated words

and arcs between associated multimedia content, the method comprising the steps of:

searching the information repository using the retrieved words, content, and/or

descriptors.


<u>Motivation</u> - The portions of the claimed method would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects") and searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to modify *Morgenstern* as taught by *Bergman et al* and *Megalou et*

*al* for the purpose of describing multimedia content as well as searching by exactly

matching content.

**Regarding claim 16:**

*Morgenstern* teaches a method (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") implemented by at least one computer (Fig. 4 ; column 12, lines 55-

67, "Referring again to ... 416. The RAM"; column 13, lines 1-16, "414 provides

temporary ... devices not shown") for information in a system comprising an encoded

network knowledge (column 1, lines 13-21, "A semantic network ... effects, and prices")

representation that includes an encoded network having nodes (column 24, lines 37-46,

"FIG. 26 shows how ... different link preferences") that represent semantic concepts

(column 1, lines 22-32, "The basic building ... properties, as attributes"), one or more

words (column 1, lines 55-67, "The isa and ... not allow multiple"; column 2, lines 1-3,

"superclasses; however, this ... allow multiple superclasses") associated (column 24,

lines 47-53, "FIGS. 27a and 27b ... the other hand") with the one or more nodes, and

wherein relationships between the nodes are represented (column 1, lines 33-40, "A link

relates ... fever, pain, swelling").

However, *Morgenstern* doesn't explicitly teach a method implemented by at least one

computer for personalizing multimedia information in a system comprising an encoded

media network knowledge representation that includes an encoded network having

nodes that represent semantic concepts, one or more words and multimedia associated

with the one or more nodes, and wherein relationships between the nodes are

represented as arcs between associated words and arcs between associated

multimedia content while *Bergman et al* teaches method implemented by at least one

computer for multimedia (column 6, lines 57-67, "Preferably, the multimedia ...

reference to FIGS. 3 and 4") information in a system comprising an encoded media

network knowledge representation that includes an encoded network having nodes that

represent semantic concepts, one or more words and multimedia associated with the

one or more nodes, and wherein relationships between the nodes are represented as

arcs (Figs. 5-6, 15; column 3, lines 17-51, "It is a further ... merging of objects, etc.";

column 4, lines 20-27, "FIG. 5 is a logical ... the present invention"; column 17, lines 49-

59, "FIG. 5 shows that object ... ends after object D". The examiner notes the arcs are

represented by the arrows and lines between the objects in *Bergman et al* Figs. 5-6 and

15 and as links in earlier cited *Morgenstern* column 1, lines 33-40.) between associated

words and arcs between associated multimedia content, the method comprising the

steps of: describing the multimedia information using words or descriptors (Abstract, "A

framework is ... aggregated multimedia objects"); describing user preferences using

words multimedia content, and/or descriptors (column 3, lines 37-51, "The description

scheme ... merging of objects, etc."; column 21, lines 65-67, "In one application ... to

client device"; column 22, lines 1-4, "characteristics and user preferences ... of Internet

content"); matching (column 23, lines 30-53, "Our contention is ... limited display

capabilities") the user preferences with the descriptions of the multimedia information

(Fig. 16; column 11, lines 60-67, "In FIG. 16, examples of various ... the lowest fidelity";

column 12, lines 1-11, "level and an ... multimedia content source"); and extracting,

retrieving, and/or summarizing the matched multimedia items (column 10, lines 38-67,

"Fidelity transformation e.g., 904-909 ... like to graphics") and *Megalou et al* teaches

relationships between the nodes are represented as <u>arcs</u> (page 8, paragraph 2, "For the

representation ... the initial graph") between associated words and arcs between

associated multimedia content and a method implemented by at least one computer for

<u>personalizing</u> (page 3, section 2.1, paragraph 1, "We started studying ... application's

source code") multimedia information in a system comprising an encoded media

network knowledge representation that includes an encoded network having nodes that

represent semantic concepts, one or more words and multimedia associated with the

one or more nodes, and wherein relationships between the nodes are represented as

arcs between associated words and arcs between associated multimedia content.

<u>Motivation</u> - The portions of the claimed method would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects") and searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to modify *Morgenstern* as taught by *Bergman et al* and *Megalou et*

*al* for the purpose of describing multimedia content as well as searching by exactly

matching content.

**Regarding claim 17**:

*Morgenstern* teaches a system (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") for encoding knowledge (column 1, lines 13-21, "A semantic network

... effects, and prices"), comprising: means for (Fig. 4) forming (column 24, lines 37-46,

"FIG. 26 shows how ... different link preferences") a network having logical (column 14,

lines 51-63, "First, each node ... read r or s") nodes that represent semantic concepts

(column 1, lines 22-32, "The basic building ... properties, as attributes").


However, *Morgenstern* <u>doesn't explicitly teach</u> means for associating <u>multimedia</u>

content with one or more of the nodes and means for representing relationships

between the nodes as <u>arcs</u> between associated words and arcs between associated

multimedia content while *Bergman et al* teaches means for (Fig. 1) forming a network

having logical (column 13, lines 25-39, "The fundamental description ... for computing

distances") nodes (column 10, lines 11-29, "Preferably, each connection ... the

multimedia content") that represent semantic (Fig. 9; column 9, lines 55-65, "One of the

... the description scheme") concepts (column 5, lines 65-67, "a multimedia content ...

digital form in"; column 6, lines 1-20, "terms of either ... same terminal object"; column

12, lines 24-42, "the multimedia content ... by the user"); means for associating one or

more words with one or more of the nodes (column 10, lines 15-37, "It should be ...

human being, etc."; column 22, lines 40-67, "The video component ... for the story");

means for associating <u>multimedia</u> content with one or more of the nodes (Figs. 11-15;

column 10, lines 38-50, "Fidelity transformation e.g. 904-909 ... the present invention";

column 11, lines 1-11, "FIG. 12 illustrates an ... fidelities may exist"); and means for

representing relationships between the nodes as <u>arcs</u> between associated words and

arcs between associated multimedia content (Figs. 5-6, 15; column 3, lines 17-51, "It is

a further ... merging of objects, etc."; column 4, lines 20-27, "FIG. 5 is a logical ... the

present invention"; column 17, lines 49-59, "FIG. 5 shows that object ... ends after

object D". The examiner notes the arcs are represented by the arrows and lines

between the objects in *Bergman et al* Figs. 5-6 and 15 and as links in earlier cited

*Morgenstern* column 1, lines 33-40.) and *Megalou et al* teaches means for representing

relationships between the nodes as <u>arcs</u> (page 8, paragraph 2, "For the representation

... the initial graph") between associated words and arcs between associated

multimedia content.


Motivation - The portions of the claimed system would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects") and searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to modify *Morgenstern* as taught by *Bergman et al* and *Megalou et*

*al* for the purpose of describing multimedia content and searching by exactly matching content.

**Regarding claim 18:**

The rejection of claim 18 is similar to that for claim 17 as recited above since the stated limitations of the claim are set forth in the references. Claim 18's limitations difference is taught in *Bergman et al*: means for searching the knowledge encoded in the network (column 23, lines 22-34, "As we have ... to support search").

**Regarding claim 19:**

The rejection of claim 19 is similar to that for claim 17 as recited above since the stated limitations of the claim are set forth in the references. Claim 19's limitations difference is taught in *Bergman et al*: means for browsing the knowledge encoded in the network (column 23, lines 30-53, "Our contention is ... limited display capabilities").

**Regarding claim 20:**

The rejection of claim 20 is similar to that for claim 17 as recited above since the stated limitations of the claim are set forth in the references. Claim 20's limitations difference teachings: means for updating (*Morgenstern,* column 15, lines 5-23, "the network is ... to be consistent") the knowledge encoded in the network (*Bergman et al,* column 12, lines 48-50, "Each description data ... that data type")

**Regarding claim 21:**

The rejection of claim 18 is similar to that for claim 17 as recited above since the stated limitations of the claim are set forth in the references. Claim 18's limitations difference is taught in *Bergman et al*: means for summarizing the knowledge encoded in the

network (column 10, lines 38-67, "Fidelity transformation e.g. 904-909 ... like to

graphics").

**Regarding claim 22:**

The rejection of claim 18 is similar to that for claim 17 as recited above since the stated

limitations of the claim are set forth in the references. Claim 18's limitations difference

is taught in *Bergman et al:* means for querying a multimedia information repository

associated with the knowledge encoded in the network (column 22, lines 5-9, "While

content negotiation ... another for retrieval").

**Regarding claim 23:**

The rejection of claim 23 is similar to that for claim 17 as recited above since the stated

limitations of the claim are set forth in the references. Claim 23's limitations difference

is taught in *Megalou et al:* means for <u>personalizing</u> (page 3, section 2.1, paragraph 1,

"We started studying ... application's source code") the knowledge encoded in the

network for a particular user

**Regarding claim 24:**

*Morgenstern* teaches a computer (Fig. 4 ; column 12, lines 55-67, "Referring again to ...

416. The RAM"; column 13, lines 1-16, "414 provides temporary ... devices not shown")

program product (column 10, lines 35-38, "An object of ... or rules engine") in a

computer readable medium for use for encoding knowledge (column 1, lines 13-21, "A

semantic network ... effects, and prices") the computer program product comprising:

first instructions for forming a network having logical (column 14, lines 51-63, "First,

each node ... read r or s") nodes (column 24, lines 37-46, "FIG. 26 shows how ...

different link preferences") that represent semantic concepts (column 1, lines 22-32,

"The basic building ... properties, as attributes"); and second instructions for associating

(column 24, lines 47-53, "FIGS. 27a and 27b ... the other hand") one or more words

with one or more of the nodes (column 1, lines 55-67, "The isa and ... not allow

multiple"; column 2, lines 1-3, "superclasses; however, this ... allow multiple

superclasses").

However, *Morgenstern* doesn't explicitly teach third instructions for associating

multimedia content with one or more of the nodes and fourth instructions for

representing relationships between the nodes as arcs between associated words and

arcs between associated multimedia content while *Bergman et al* teaches the computer

program product comprising: first instructions (Figs. 17-18) for forming a network having

logical (column 13, lines 25-39, "The fundamental description ... for computing

distances") nodes (column 10, lines 11-29, "Preferably, each connection ... the

multimedia content") that represent semantic (Fig. 9; column 9, lines 55-65, "One of the

... the description scheme") concepts (column 5, lines 65-67, "a multimedia content ...

digital form in"; column 6, lines 1-20, "terms of either ... same terminal object"; column

12, lines 24-42, "the multimedia content ... by the user"); second instructions for

associating one or more words with one or more of the nodes (column 10, lines 15-37,

"It should be ... human being, etc."; column 22, lines 40-67, "The video component ...

for the story"); third instructions for associating multimedia content with one or more of

the nodes (Figs. 11-15; column 10, lines 38-50, "Fidelity transformation e.g. 904-909 ...

the present invention"; column 11, lines 1-11, "FIG. 12 illustrates an ... fidelities may

exist"); and fourth instructions for representing relationships between the nodes as <u>arcs</u>

between associated words and arcs between associated multimedia content (Figs. 5-6,

15; column 3, lines 17-51, "It is a further ... merging of objects, etc."; column 4, lines 20-

27, "FIG. 5 is a logical ... the present invention"; column 17, lines 49-59, "FIG. 5 shows

that object ... ends after object D". The examiner notes the arcs are represented by the

arrows and lines between the objects in *Bergman et al* Figs. 5-6 and 15 and as links in

earlier cited *Morgenstern* column 1, lines 33-40.) and *Megalou et al* teaches fourth

instructions for representing relationships between the nodes as <u>arcs</u> (page 8,

paragraph 2, "For the representation ... the initial graph") between associated words

and arcs between associated multimedia content.


<u>Motivation</u> - The portions of the claimed product would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects") and searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made, to modify *Morgenstern* as taught by *Bergman et al* and *Megalou et*

*al* for the purpose of describing multimedia content and searching by exactly matching

content.

**Regarding claim 25**:

The rejection of claim 25 is similar to that for claim 1 as recited above since the stated limitations of the claim are set forth in the references. Claim 25's limitations difference is taught in *Bergman et al*: the relationships (column 3, lines 46-51, "Non-terminal objects may ... merging of objects, etc."; column 5, lines 65-67, "a multimedia content ... digital form in"; column 6, lines 1-20, "terms of either ... and non-terminal objects"; column 9, lines 55-65, "One of the ... the description scheme"; column 17, lines 30-40, "the spatial relationships ... InfoPyramid or objects") between the nodes (column 10, lines 11-29, "Preferably, each connection ... the multimedia content") are based (column 19, lines 15-24, "Based on the ... with different platforms"), at least in part, on the features (column 8, lines 42-54, "Feature Descriptors: These ... or the like") of the multimedia content.

**Regarding claim 26**:

The rejection of claim 26 is similar to that for claim 1 as recited above since the stated limitations of the claim are set forth in the references. Claim 26's limitations difference is taught in *Bergman et al*: the relationships (column 3, lines 46-51, "Non-terminal objects may ... merging of objects, etc."; column 5, lines 65-67, "a multimedia content ... digital form in"; column 6, lines 1-20, "terms of either ... and non-terminal objects"; column 9, lines 55-65, "One of the ... the description scheme"; column 17, lines 30-40, "the spatial relationships ... InfoPyramid or objects") between the nodes (column 10, lines 11-29, "Preferably, each connection ... the multimedia content") denote similarity (column 13, lines 25-39, "The fundamental description ... for computing distances") of

semantic concepts (column 20, lines 57-65, "the multimedia content ... and semantic

concepts").


Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over

*Morgenstern* in view of *Bergman et al* in view of *Megalou et al* in view of *Miller*

"WordNet: A Lexical Database for English" (November 1995) and in further view of

*Messerly et al* USPN 6,246,977 "Information retrieval utilizing semantic representation

of text and based on constrained expansion of query words" (Filed Aug. 3, 1999).

**Regarding claim 2:**

*Morgenstern* teaches a method (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") implemented by at least one computer (Fig. 4 ; column 12, lines 55-

67, "Referring again to ... 416. The RAM"; column 13, lines 1-16, "414 provides

temporary ... devices not shown") for encoding knowledge (column 1, lines 13-21, "A

semantic network ... effects, and prices"), comprising the steps of : forming a network

having nodes (column 24, lines 37-46, "FIG. 26 shows how ... different link

preferences") that represent semantic concepts (column 1, lines 22-32, "The basic

building ... properties, as attributes"); and associating (column 24, lines 47-53, "FIGS.

27a and 27b ... the other hand") one or more words with one or more of the nodes

(column 1, lines 55-67, "The isa and ... not allow multiple"; column 2, lines 1-3,

"superclasses; however, this ... allow multiple superclasses"); associating with one or

more of the nodes (column 19, lines 51-57, "As in FIG. 17a ... associated challenged

paths 1755"); and representing relationships between the nodes (column 1, lines 33-40,

"A link relates ... fever, pain, swelling").


However, *Morgenstern* doesn't explicitly teach associating multimedia content with one

or more of the nodes; representing relationships between the nodes as arcs between

associated words and arcs between associated multimedia content; and creating lexical

relations between semantic concepts on the basis of one or more of: word forms and

word meaning of associated words while *Bergman et al* teaches forming a network

having nodes (column 10, lines 11-29, "Preferably, each connection ... the multimedia

content") that represent semantic concepts (Figs. 8-9; column 20, lines 57-65, "the

multimedia content ... and semantic concepts"); associating one or more words with

one or more of the nodes (column 22, lines 40-67, "The video component ... for the

story"); associating multimedia content with one or more of the nodes (Figs. 11-15;

column 11, lines 1-11, "FIG. 12 illustrates an example ... fidelities may exist");

representing relationships between the nodes as arcs between associated words and

arcs between associated multimedia content (Figs. 5-6, 15; column 3, lines 17-51, "It is

a further ... merging of objects, etc."; column 4, lines 20-27, "FIG. 5 is a logical ... the

present invention"; column 17, lines 49-59, "FIG. 5 shows that object ... ends after

object D". The examiner notes the arcs are represented by the arrows and lines

between the objects in Figs. 5-6 and 15 and as links in earlier cited *Morgenstern* column

1, lines 33-40.); and relations between semantic concepts (column 5, lines 65-67, "a

multimedia content...digital form in"; column 6, lines 1-14, "terms of either...and non-

terminal objects"; column 7, lines 2-43, "Multimedia content typically...or semantics

pyramid"; column 9, lines 26-38, "the spatial or...object, event, etc."; column 12, lines

24-57, "the multimedia content...data types T1, T2, T3, etc."), *Megalou et al* teaches

representing relationships between the nodes as <u>arcs</u> (page 8, paragraph 2, "For the

representation ... the initial graph") between associated words and arcs between

associated multimedia content, *Miller* teaches <u>lexical</u> (page 39, paragraphs 1-2,

"Because meaningful sentences...to be synonymous") relations between semantic

concepts on the basis of one or more of: word forms and <u>word meaning</u> of associated

words and *Messerly et al* teaches <u>creating</u> (Abstract, "The present invention ... against

that index") lexical relations between semantic concepts on the basis of one or more of:

word forms and word meaning of associated words.


<u>Motivation</u> - The portions of the claimed method would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects"), searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research"),

distinguishing between different sets of linguistic context in which the word form can be

used to express the word sense (*Miller*, page 41, Contextual Representations section,

paragraph 3, "Choosing between alternative ... not well understood") and performing

information retrieval using an improved tokenizer that parses input text to identify logical

forms, then expands the logical forms (*Messerly et al*, column 2, lines 47-56, "The

invention is ... terms are used"). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made, to modify *Morgenstern* as

taught by *Bergman et al, Megalou et al, Miller* and *Messerly et al* for the purpose of

describing multimedia content as well as searching by exactly matching content,

distinguishing between different sets of linguistic context in which the word form can be

used to express the word sense and performing information retrieval using an improved

tokenizer that parses input text to identify logical forms, then expands the logical forms.


Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over

*Morgenstern* in view of *Bergman et al* in view of *Megalou et al* and in further view of

*Dolan* USPN 6,253,170 "Bootstrapping sense characterizations of occurrences of

polysemous words in dictionary representations of a lexical knowledge base in

computer memory" (Filed Jun. 16, 1999).

**Regarding claim 13:**

*Morgenstern* teaches a method (column 10, lines 10-14, "An object of ... multiple non-

conflicting paths") implemented by at least one computer (Fig. 4 ; column 12, lines 55-

67, "Referring again to ... 416. The RAM"; column 13, lines 1-16, "414 provides

temporary ... devices not shown") for an encoded network knowledge (column 1, lines

13-21, "A semantic network ... effects, and prices") representation that comprises a

network having nodes (column 24, lines 37-46, "FIG. 26 shows how ... different link

preferences") that represent semantic concepts (column 1, lines 22-32, "The basic

building ... properties, as attributes"), one or more words associated (column 24, lines

47-53, "FIGS. 27a and 27b ... the other hand") with the one or more nodes (column 1,

lines 55-67, "The isa and ... not allow multiple"; column 2, lines 1-3, "superclasses;

however, this ... allow multiple superclasses"), and wherein relationships between the

nodes are represented (column 1, lines 33-40, "A link relates ... fever, pain, swelling"),

the method comprising the steps of: uniting together concept nodes (column 16, lines

17-34, "FIG. 9 discloses a ... maximally consistent subset").


However, *Morgenstern* doesn't explicitly teach a method implemented by at least one

computer for summarizing an encoded media network knowledge representation that

comprises a network having nodes that represent semantic concepts, one or more

words and multimedia associated with the one or more nodes, and wherein

relationships between the nodes are represented as arcs between associated words

and arcs between associated multimedia content while *Bergman et al* teaches a method

implemented by at least one computer for summarizing (column 5, lines 21-43, "In the

content ... space and semantics") an encoded media (column 6, lines 57-67,

"Preferably, the multimedia ... reference to FIGS. 3 and 4") network knowledge

representation that comprises a network having nodes that represent semantic

concepts, one or more words and multimedia associated with the one or more nodes,

and wherein relationships between the nodes are represented as arcs between

associated words and arcs between associated multimedia content (Figs. 5-6, 15;

column 3, lines 17-51, "It is a further ... merging of objects, etc."; column 4, lines 20-27,

"FIG. 5 is a logical ... the present invention"; column 17, lines 49-59, "FIG. 5 shows that

object ... ends after object D". The examiner notes the arcs are represented by the

arrows and lines between the objects in *Bergman et al* Figs. 5-6 and 15 and as links in

earlier cited *Morgenstern* column 1, lines 33-40.), the method comprising the steps of:

extracting a subset of nodes, relations, and words and/or multimedia content from an

encoded media network knowledge representation (column 9, lines 39-54, "In one

multimedia ... to only metadata"); and consolidating together concept nodes, relations,

words, and/or multimedia content (column 9, lines 55-67, "One of the ... is illustrated in

FIG. 9"; column 10, lines 1-10, "With reference to ... dependency entity description"),

*Megalou et al* teaches relationships between the nodes are represented as <u>arcs</u> (page

8, paragraph 2, "For the representation ... the initial graph") between associated words

and arcs between associated multimedia content and combining (page 22, paragraph 2,

"Among the requirements ... query evaluation process"; page 23, section 3.2.1.1,

subsection I, Example 3.1, "Get multimedia applications ... relationship such as within")

together concepts, relations and/or multimedia and *Dolan* teaches consolidating

(column 6, lines 66-67, "As shown in FIGS. 2 and 3 ... to a dictionary"; column 7, lines

1-11, "text segment from ... subgraph was copied") together concept nodes, relations,

words, and/or multimedia content.

Motivation - The portions of the claimed method would have been a highly desirable

feature in this art for describing multimedia content (*Bergman et al*, Abstract, "A

framework is ... aggregated multimedia objects"), searching by exactly matching

content (*Megalou et al*, Abstract, "Information searching by ... and database research")

and connecting a pair of semantically coherent words, such as those having a synonym,

hypernym/hyponym, or verb/typical object relationship (*Dolan*, column 3, lines 39-45, "In

a further ... verb/typical object relationship"). Therefore, it would have been obvious to

one of ordinary skill in the art at the time the invention was made, to modify

*Morgenstern* as taught by *Bergman et al, Megalou et al* and *Dolan* and for the purpose

of describing multimedia content, searching by exactly matching content and connecting

a pair of semantically coherent words.


## RESPONSE TO APPLICANTS' APPEAL BRIEF ARGUMENTS

Per applicant's 3/23/05 request for signed form 1449, please find with this action

a correction made in reconsidering applicant's 3/23/05 and 11/1/01 Information

Disclosure Statement (IDS) submissions: 26-28 January 2000 for *Joyce et al's*

"Semiotics and agents for integrating and navigating through multimedia

representations of concepts" date of publication (supported by

http://www.spie.org/web/meetings/programs/pw00/confs/3972.html).


### *Claim Rejections - 35 USC § 102*

Applicant argues that *Bergman et al* United States Patent Number (USPN)

6,564,263 does not teach all the limitations of claims 1 and 3-26 (Appeal Brief Argument

I, page 3): claim 1's semantic concepts, knowledge and forming a network having nodes

that represent semantic concepts (Appeal Brief Argument, page 5, paragraph 1) and

claim 15's encoded media network knowledge representation that comprises an

encoded network having nodes that represent semantic concepts (Appeal Brief

Argument, page 8, paragraph 2), for examples. Applicant's arguments have been fully

considered, but are moot in view of new grounds of rejection.

The examiner agrees that *Bergman et al* does not disclose the encoding knowledge

in the preamble of claim 1 or the encoded media network knowledge in the preamble of

claim 15. However, *Morgenstern* USPN 5,802,508 column 1, lines 13-21 is cited

individually and in combination with *Bergman et al* column 6, lines 57-67 and *Megalou*

*et al al* "Semantic Abstractions in the Multimedia Domain" page 8, paragraph 2 for

explicitly and inherently disclosing the encoding knowledge, encoded media network

knowledge and arc subject matter set forth in claims 1 and 15.

Applicant argues that claims 13 is allowable over the cited art (Appeal Brief

Argument page 7, last paragraph). Applicant's arguments have been fully considered,

but are moot in view of new grounds of rejection. The examiner agrees that

*Morgenstern* column 16, lines 17-34 in combination with *Bergman et al* column 9, lines

55-67; column 10, lines 1-10, *Megalou et al* page 22, paragraph 2; page 23, section

3.2.1.1, subsection I, Example 3.1 and *Dolan* USPN 6,253,170 column 6, lines 66-67

and column 7, lines 1-11 explicitly and inherently discloses the consolidating subject

matter set forth in claim 13.

Furthermore, the purpose and motivation for modifying *Morgenstern* as taught by

other references include describing multimedia content (*Bergman et al*, Abstract),

searching by exactly matching content (*Megalou et al*, Abstract) and connecting a pair

of semantically coherent words, such as those having a synonym, hypernym/hyponym,

or verb/typical object relationship (*Dolan*, column 3, lines 39-45).

### *Claim Rejections - 35 USC § 103*

Applicant argues that claims 2 is allowable over the cited art (Appeal Brief

Argument page 9, section II). Applicant's arguments have been fully considered, but

are moot in view of new grounds of rejection. The examiner agrees that *Miller* page 39,

paragraphs 1-2 and *Messerly et al's* Abstract in combination with *Morgenstern,*

*Bergman et al* and *Megalou et al* explicitly and inherently discloses the lexical, word

meaning and creating subject matter set forth in claim 2.

Furthermore, the purpose and motivation for modifying *Morgenstern* as taught by

other references include distinguishing between different sets of linguistic context in

which the word form can be used to express the word sense (*Miller,* page 41,

Contextual Representations section, paragraph 3) and performing information retrieval

using an improved tokenizer that parses input text to identify logical forms, then

expands the logical forms (*Messerly et al,* column 2, lines 47-56, "The invention is ...

terms are used").

As set forth above with regards to *Morgenstern, Bergman et al, Megalou et al,*

*Dolan, Miller* and *Messerly et al,* the items listed explicitly and inherently teach each

element of the applicants' claimed limitations. Applicants have not set forth any

distinction or offered any dispute between the claims of the subject application,

*Morgenstern's* Reasoning with rules in a multiple inheritance semantic network with

exceptions, *Bergman's* Multimedia content description framework, *Megalou et al's*

Semantic Abstractions in the Multimedia Domain, *Dolan's* Bootstrapping sense

characterizations of occurrences of polysemous words in dictionary representations of a

lexical knowledge base in computer memory, *Miller's* WordNet: A Lexical Database for

English and *Messerly et al's* Information retrieval utilizing semantic representation of

text and based on constrained expansion of query words.


## Specification and Claim Objections

The specification is objected to for a minor informality noted in the prior Office

Action: 'initial node' on page 15, line 7 would read well as 'initial content node'.

Claim 10 is objected to because of the following informality:

**Regarding claim 10:**

- 'A method' would read well as 'A computer-implemented method'

Appropriate correction is required.


## Conclusion

The following prior art made of record is considered pertinent to applicant's

disclosure:

- *Rising*; US 6629088 B1; Method and apparatus for measuring the quality of

descriptors and description schemes

- *Zamora*; US 4965763 A; Computer method for automatic extraction of commonly

specified information from business correspondence

- *Jacobs et al*; US 5251129 A; Method for automated morphological analysis of word

structure

- *Kohn et al*; US 5963447 A; Multiple-agent hybrid control architecture for intelligent real-time control of distributed nonlinear processes

- *Jain et al*; US 5983237 A; Visual dictionary

- *Segond et al*; US 6405162 B1; Type-based selection of rules for semantically disambiguating words

- *Junqua*; US 6598018 B1; Method for natural dialog interface to car devices

- *Duan et al*; US 6721697 B1; Method and system for reducing lexical ambiguity

- *BINNIG et al*; EP 0962873 A1; PROCESSING OF TEXTUAL INFORMATION AND AUTOMATED APPREHENSION OF INFORMATION

- *Dimitrova*; Multimedia Content Analysis and Indexing for Filtering and Retrieval Applications; Informing Science Special Issue on Multimedia Informing Technologies - Part 1; Vol. 2, Is. 4; 1999; pp 87-100

- *Delisle et al*; Contexts—a partitioning concept for hypertext; ACM Transactions on Information Systems (TOIS); Vol. 5, Is. 2; April 1987; pp 168-186

- *Sowa*; Semantics of conceptual graphs; Proceedings of the 17th annual meeting on Association for Computational Linguistics; 1979; pp 39-44

- *Eren et al*; Interactive object-based analysis and manipulation of digital video; IEEE Second Workshop on Multimedia Signal Processing; 7-9 Dec. 1998; pp 335-340

- *Ferman et al*; Effective content representation for video; International Conference on Image Processing Proceedings; vol.3; 4-7 Oct. 1998; pp 521-525

Any inquiry concerning this communication or earlier communications from the Office should be directed to Meltin Bell whose telephone number is 571-272-3680. This Examiner can normally be reached on Mon - Fri 7:30 am - 4:00 pm.

If attempts to reach this Examiner by telephone are unsuccessful, his supervisor, Anthony Knight, can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MB /Mu.A
August 8, 2005

Anthony Knight
Supervisory Patent Examiner
Group 3600